What is claimed is:

1. A method of making an article of metallic alloy, comprising the steps of:

melting the metallic alloy under vacuum or partial pressure of inert gas;

pouring the metallic alloy into a metal mold with a cavity of uniform thickness, wherein the metal mold is made by machining or casting technique from materials having melting point in the temperature range 2350°F-3000°F and thermal conductivity between 300-400 Btu/Ft ^{2}/hr/in/°F in the temperature range 70-700°F and ultimate tensile strength betwen100 and 200 KSI,

solidifying the melted metallic alloy into a solid body taking the shape of the mold cavity as a plate of constant thickness;

preheating the solidified plate at temperature below the melting temperature of the metallic alloy;

deforming the preheated plate between two flat dies with the application of pressure along the thickness direction producing a plate with reduced but constant thickness;

optionally annealing the deformed plate at temperatures below the melting temperature of the metallic alloy.

2. The method of Claim 1, wherein the mold has a temperature in the range from 30 to 800°C when the alloy is poured into the mold.

3. The method of Claim 1, wherein the mold has a temperature in the range from 200 to 800°C when the alloy is poured into the mold.

4. The method of Claim 1, wherein the mold has a temperature in the range from 100 to 500°C when the alloy is poured into the mold.

5. The method of Claim 1, wherein the mold cavity is round or square or rectangular with a constant thickness in the range from 0.25 to 2 inch.

6. The method of Claim 1, wherein the mold cavity is round or square or rectangular with a constant thickness in the range from 0.5 to 2 inch.

7. The method of Claim 1, wherein the mold cavity is round or square or rectangular with a constant thickness in the range from 0.5 to 1 inch.

8. The method of Claim 1, wherein the solidified plate is preheated before deformation at temperature in the range from 500 to 2200°F.

9. The method of Claim 1, wherein the solidified plate is preheated before deformation at temperature in the range from 1000 to 2200°F.

10. The method of Claim 1, wherein the solidified plate is preheated before deformation at temperature in the range from 1000 to 2000°F.

11. The method of Claim 1, wherein the solidified plate is preheated before deformation at temperature in the range from 1200 to 1800°F.

12. The method of Claim 1, wherein the solidified plate is preheated before deformation at temperatures in the range from 1200 to 1600°F.

13. The method of Claim 1, wherein the preheated plate is pressed between two flat dies at strain rate in the range from 0.1/second to 10/second.

14. The method of Claim 1, wherein the preheated plate is pressed between two flat dies at strain rate in the range from 0.5/second to 10/second.

15. The method of Claim 1, wherein the preheated plate is pressed between two flat dies at strain rate in the range from 1/second to 10/second.

16. The method of Claim 1, wherein the preheated plate is pressed between two flat dies at strain rate in the range from 1/second to 5/second.

17. The method of Claim 1, wherein the preheated plate is deformed between two flat dies undergoing 10-80 % reduction in thickness.

18. The method of Claim 1, wherein the preheated plate is deformed between two flat dies to undergo 20-80 % reduction in thickness.

19. The method of Claim 1, wherein the preheated plate is deformed between two flat dies to undergo 30-70 % reduction in thickness.

20. The method of Claim 1, wherein the metallic alloy is a cobalt base alloy having the composition in weight percent as follows:

Cobalt = Balance

Chromium = 5 to 20%

Tantalum = 5 to 15%

and inevitable impurity elements, wherein the impurity elements are less than 0.01% each and less than 0.05% total

21. The method of Claim 1, wherein the metallic alloy is a cobalt base alloy having the composition in weight percent as follows:

Cobalt = Balance

Chromium = 5-20%

Iron = 0-15%

and inevitable impurity elements, wherein the impurity elements are less than 0.01% each and less than 0.05% total.

22. The method of Claim 1, wherein the metallic alloy is a cobalt base alloy having the composition in weight percent as follows:

Cobalt = Balance

Chromium = 5-20%

Platinum = 5-15%

Boron = 0- 2 %

and inevitable impurity elements, wherein the impurity elements are less than 0.01% each and less than 0.05% total.

23. The method of Claim 1, wherein the metallic alloy is a cobalt base alloy having the composition in weight percent as follows:

Cobalt = Balance

Chromium = 0-20%

Zirconium = 0 - 5%

Niobium = 0 - 5%

Tantalum = 0 -10%

Hafnium = 0 -10%

and inevitable impurity elements, wherein the impurity elements are less than 0.01% each and less than 0.05% total.

24. The method of Claim 1, wherein the metallic alloy is a nickel base alloy having the composition in weight percent as follows:

Nickel = Balance

Chromium = 0-20%

Iron = 470- 10%

and inevitable impurity elements, wherein the impurity elements are less than 0.01% each and less than 0.05% total.

25. The method of Claim 1, wherein the metallic alloy is a nickel base alloy having the composition in weight percent as follows:

Nickel = Balance

Chromium = 0-20%

Rhodium = 0-10%

and inevitable impurity elements, wherein the impurity elements are less than 0.01% each and less than 0.05% total.

26. The method of Claim 1, wherein the metallic alloy is a nickel base alloy having the composition in weight percent as follows:

Nickel = Balance

Chromium = 0- 20%

Tungsten = 0- 10%

and inevitable impurity elements, wherein the impurity elements are less than 0.01% each and less than 0.05% total.

27. The method of Claim 1, wherein the metallic alloy is a nickel base alloy having the composition in weight percent as follows:

Nickel = Balance

Vanadium = 0-10%

and inevitable impurity elements, wherein the impurity elements are less than 0.01% each and less than 0.05% total.

28. The method of Claim 1, wherein the metallic alloy has the composition in weight percent as follows:

Nickel = 99.95 to 99.99 %.

29. A sputtering target made by the method of Claim 1.

30. The sputtering target of Claim 29, wherein the sputtering target is a nickel base alloy sputtering target.

31. The sputtering target of Claim 29, wherein the sputtering target is a cobalt base alloy sputtering target.

32. A nickel base or cobalt base alloy sputtering target having a percentage pass through flux of at least 60%.

33. The sputtering target of Claim 32, having a percentage pass through flux of at least 65%.

34. The sputtering target of Claim 32, having a percentage pass through flux of 65% to 80%.

35. The sputtering target of Claim 32, having a percentage pass through flux of 65% to 75%.

36. The sputtering target of Claim 32, wherein the sputtering target is a nickel base alloy sputtering target.

37. The sputtering target of Claim 32, wherein the sputtering target is a cobalt base alloy sputtering target.